

### **Amendments to the Claims:**

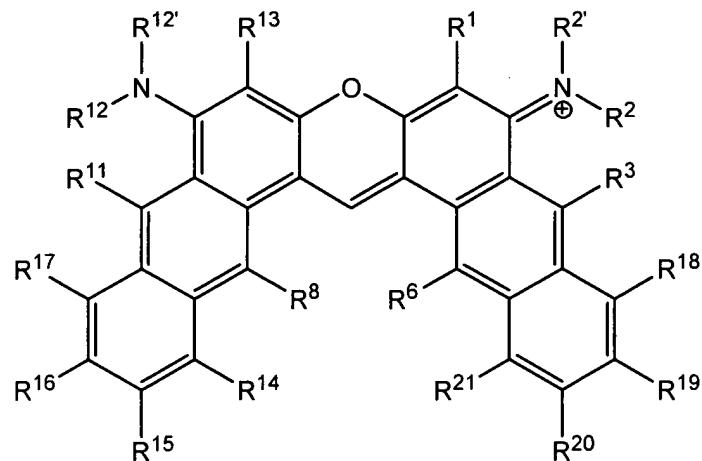
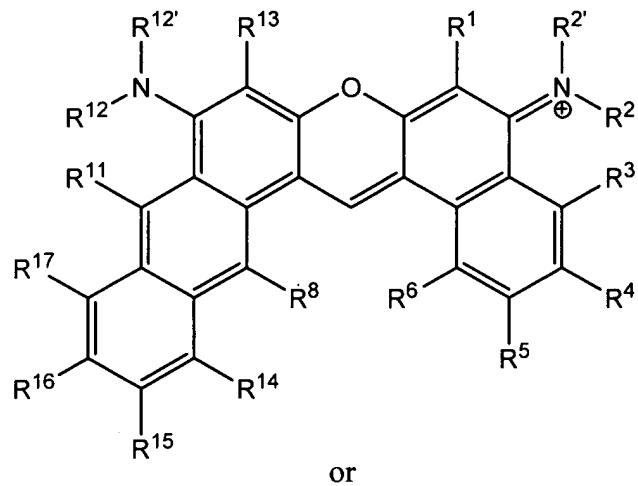
This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1-22. (Previously Canceled)

23-92. (Cancelled)

93. (New) A sulfonated diarylrhodamine dye comprising a compound of the structure:



wherein  $R^2$ ,  $R^{2'}$ ,  $R^{12}$  and  $R^{12'}$  when taken alone are each independently selected from hydrogen,  $C_1$ - $C_{12}$  alkyl,  $C_1$ - $C_{12}$  substituted alkyl,  $C_1$ - $C_{12}$  alkyldiyl,  $C_1$ - $C_{12}$  substituted

alkyldiyl, phenyl, substituted phenyl, benzyl, substituted benzyl, biphenyl, substituted biphenyl, naphthyl, substituted naphthyl, heterocycle, substituted heterocycle, water-solubilizing group or linking moiety,

$R^2$  when taken together with  $R^1$  forms a ring structure having from 4 to 7 ring members optionally substituted by one or more of C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyl, C<sub>1</sub>-C<sub>12</sub> alkyldiyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyldiyl, phenyl, substituted phenyl, benzyl, substituted benzyl, biphenyl, substituted biphenyl, naphthyl, substituted naphthyl, heterocycle, substituted heterocycle, water-solubilizing group or linking moiety,

$R^2'$  when taken together with  $R^1$  forms a ring structure having from 4 to 7 ring members optionally substituted by one or more of C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyl, C<sub>1</sub>-C<sub>12</sub> alkyldiyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyldiyl, phenyl, substituted phenyl, benzyl, substituted benzyl, biphenyl, substituted biphenyl, naphthyl, substituted naphthyl, heterocycle, substituted heterocycle, water-solubilizing group or linking moiety,

$R^{12}$  when taken together with  $R^{13}$  forms a ring structure having from 4 to 7 ring members optionally substituted by one or more of C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyl, C<sub>1</sub>-C<sub>12</sub> alkyldiyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyldiyl, phenyl, substituted phenyl, benzyl, substituted benzyl, biphenyl, substituted biphenyl, naphthyl, substituted naphthyl, heterocycle, substituted heterocycle, water-solubilizing group or linking moiety,

$R^{12}'$  when taken together with  $R^{13}$  forms a ring structure having from 4 to 7 ring members optionally substituted by one or more of C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyl, C<sub>1</sub>-C<sub>12</sub> alkyldiyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyldiyl, phenyl, substituted phenyl, benzyl, substituted benzyl, biphenyl, substituted biphenyl, naphthyl, substituted naphthyl, heterocycle, substituted heterocycle, water-solubilizing group or linking moiety,

$R^2$  when taken together with  $R^3$  forms a ring structure having from 5 to 7 ring members optionally substituted by one or more of C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyl, C<sub>1</sub>-C<sub>12</sub> alkyldiyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyldiyl, phenyl, substituted phenyl, benzyl, substituted benzyl, biphenyl, substituted biphenyl, naphthyl, substituted naphthyl, heterocycle, substituted heterocycle, water-solubilizing group or linking moiety,

$R^2'$  when taken together with  $R^3$  forms a ring structure having from 5 to 7 ring members optionally substituted by one or more of C<sub>1</sub>-C<sub>12</sub> alkyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyl, C<sub>1</sub>-C<sub>12</sub> alkyldiyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyldiyl, phenyl, substituted phenyl, benzyl, substituted

benzyl, biphenyl, substituted biphenyl, naphthyl, substituted naphthyl, heterocycle, substituted heterocycle, water-solubilizing group or linking moiety,

$R^{12}$  when taken together with  $R^{11}$  forms a ring structure having from 5 to 7 ring members optionally substituted by one or more of  $C_1$ - $C_{12}$  alkyl,  $C_1$ - $C_{12}$  substituted alkyl,  $C_1$ - $C_{12}$  alkyldiyl,  $C_1$ - $C_{12}$  substituted alkyldiyl, phenyl, substituted phenyl, benzyl, substituted benzyl, biphenyl, substituted biphenyl, naphthyl, substituted naphthyl, heterocycle, substituted heterocycle, water-solubilizing group or linking moiety,

$R^{12}$  when taken together with  $R^{11}$  forms a ring structure having from 5 to 7 ring members optionally substituted by one or more of  $C_1$ - $C_{12}$  alkyl,  $C_1$ - $C_{12}$  substituted alkyl,  $C_1$ - $C_{12}$  alkyldiyl,  $C_1$ - $C_{12}$  substituted alkyldiyl, phenyl, substituted phenyl, benzyl, substituted benzyl, biphenyl, substituted biphenyl, naphthyl, substituted naphthyl, heterocycle, substituted heterocycle, water-solubilizing group or linking moiety, and

$R^1$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^8$ ,  $R^{11}$ ,  $R^{13}$ ,  $R^{14}$ ,  $R^{15}$ ,  $R^{16}$ ,  $R^{17}$ ,  $R^{18}$ ,  $R^{19}$ ,  $R^{20}$ , and  $R^{21}$  are each independently selected from hydrogen, fluorine, chlorine,  $C_1$ - $C_8$  alkyl, carboxylate, sulfate, sulfonate, alkylsulfonate, aminomethyl (- $CH_2NH_2$ ), aminoalkyl, 4-dialkylaminopyridinium, hydroxymethyl (- $CH_2OH$ ), methoxy (- $OCH_3$ ), hydroxyalkyl (- $ROH$ ), thiomethyl (- $CH_2SH$ ), thioalkyl (- $RSH$ ), alkylsulfone (- $SO_2R$ ), arylthio (- $SAr$ ), arylsulfone (- $SO_2Ar$ ), sulfonamide (- $SO_2NR_2$ ), alkylsulfoxide (- $SOR$ ), arylsulfoxide (- $SOAr$ ), amino (- $NH_2$ ), ammonium (- $NH_3^+$ ), amido (- $CONR_2$ ), nitrile (- $CN$ ),  $C_1$ - $C_8$  alkoxy (- $OR$ ), phenoxy, phenolic, tolyl, phenyl, aryl, benzyl, heterocycle, phosphonate, phosphate, quaternary amine, sulfate, polyethyleneoxy, water-solubilizing group, or linking moiety;

wherein at least one of  $R^1$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^8$ ,  $R^9$ ,  $R^{13}$ ,  $R^{14}$ ,  $R^{15}$ ,  $R^{16}$ ,  $R^{17}$ ,  $R^{18}$ ,  $R^{19}$ ,  $R^{20}$ , and  $R^{21}$  is sulfonate.

94. (New) The dye of claim 93 wherein at least one of  $R^2$ ,  $R^{2'}$ ,  $R^{12}$  and  $R^{12'}$  is  $C_1$ - $C_6$  alkylsulfonate or  $C_4$ - $C_{10}$  arylsulfonate.

95. (New) The dye of claim 93 wherein the  $C_1$ - $C_{12}$  substituted alkyl,  $C_1$ - $C_{12}$  substituted alkyldiyl, substituted phenyl, substituted benzyl, substituted biphenyl, substituted naphthyl, substituted heterocycle are substituted with at least one sulfonate substituent.

96. (New) The dye of claim 93 wherein the C<sub>1</sub>-C<sub>12</sub> substituted alkyl, C<sub>1</sub>-C<sub>12</sub> substituted alkyldiyl, substituted phenyl, substituted benzyl, substituted biphenyl, substituted naphthyl, substituted heterocycle are substituted with at least one carboxyl substituent.

97. (New) The dye of claim 93 which comprises a linking moiety selected from azido, monosubstituted primary amine, disubstituted secondary amine, thiol, hydroxyl, halide, epoxide, N-hydroxysuccinimidyl ester, carboxyl, isothiocyanate, sulfonyl chloride, sulfonate ester, silyl halide, chlorotriazinyl, succinimidyl ester, pentafluorophenyl ester, maleimide, haloacetyl, epoxide, alkylhalide, allyl halide, aldehyde, ketone, acylazide, anhydride, iodoacetamide or an activated ester.

98. (New) The dye of claim 93 wherein the water-solubilizing group is selected from carboxylate, sulfonate, phosphonate, phosphate, quaternary amine, sulfate, polyhydroxyl, or water-soluble polymer.

99. (New) The dye of claim 93 which comprises heterocycle selected from pyrrole, indole, furan, benzofuran, thiophene, benzothiophene, 2-pyridyl, 3-pyridyl, 4-pyridyl, 2-quinolyl, 3-quinolyl, 4-quinolyl, 2-imidazole, 4-imidazole, 3-pyrazole, 4-pyrazole, pyridazine, pyrimidine, pyrazine, cinnoline, pthalazine, quinazoline, quinoxaline, 3-(1,2,4-N)-triazolyl, 5-(1,2,4-N)-triazolyl, 5-tetrazolyl, 4-(1-O,3-N)-oxazole, 5-(1-O,3-N)-oxazole, 4-(1-S,3-N)-thiazole, 5-(1-S,3-N)-thiazole, 2-benzoxazole, 2-benzothiazole, 4-(1,2,3-N)-benzotriazole, or benzimidazole.

100. (New) The dye of claim 93 wherein R<sup>1</sup>, R<sup>3</sup>, R<sup>6</sup>, R<sup>8</sup>, R<sup>11</sup>, R<sup>13</sup>, R<sup>14</sup>, R<sup>15</sup>, R<sup>16</sup>, R<sup>17</sup>, R<sup>18</sup>, R<sup>19</sup>, R<sup>20</sup>, and R<sup>21</sup> are hydrogen.

101. (New) The dye of claim 93 comprising at least one of  
a first bridging group wherein R<sup>12</sup> when taken together with R<sup>13</sup> forms a first ring structure having from 4 to 7 ring members, and  
a second bridging group wherein R<sup>2</sup> when taken together with R<sup>1</sup> forms a second ring structure having from 4 to 7 ring members.

102. (New) The dye of claim 101 wherein at least one of the first and second ring structures is a five membered ring structure.

103. (New) The dye of claim 102 wherein the five membered ring structure comprises at least one gem disubstituted carbon.

104. (New) The dye of claim 103 wherein the gem substituents are (C<sub>1</sub>-C<sub>8</sub>) alkyl.

105. (New) The dye of claim 103 wherein the gem substituents are methyl.

106. (New) The dye of claim 102 wherein the five membered ring structure comprises at least one of a linking moiety or a water-solubilizing group.

107. (New) The dye of claim 93 comprising at least one of a third bridging group wherein R<sup>12</sup> when taken together with R<sup>11</sup> form a third ring structure having from 5 to 7 ring members; and

a fourth bridging group wherein R<sup>2</sup> when taken together with R<sup>3</sup> forms a fourth ring structure having from 5 to 7 ring members.

108. (New) The dye of claim 107 wherein at least one of the third and fourth ring structures is a six membered ring structure.

109. (New) The dye of claim 108 wherein the six membered ring structure comprises one gem disubstituted carbon.

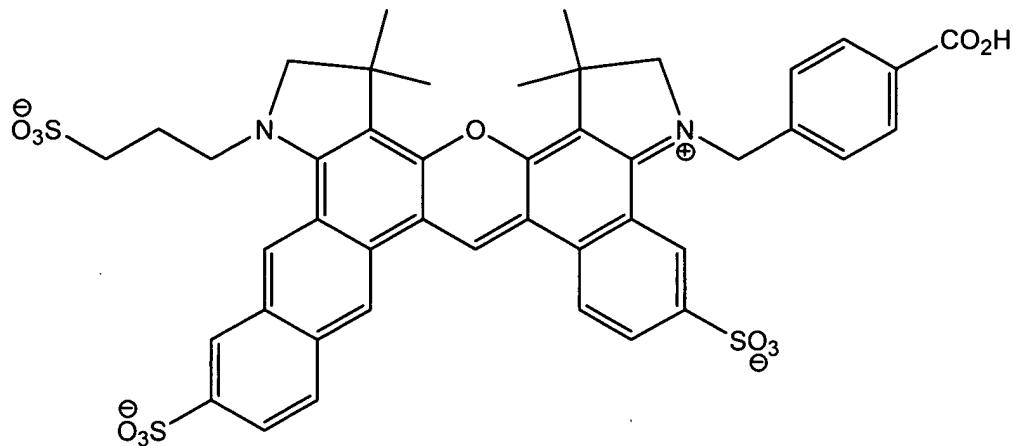
110. (New) The dye of claim 109 wherein the gem substituents are (C<sub>1</sub>-C<sub>8</sub>) alkyl.

111. (New) The dye of claim 110 wherein the gem substituents are methyl.

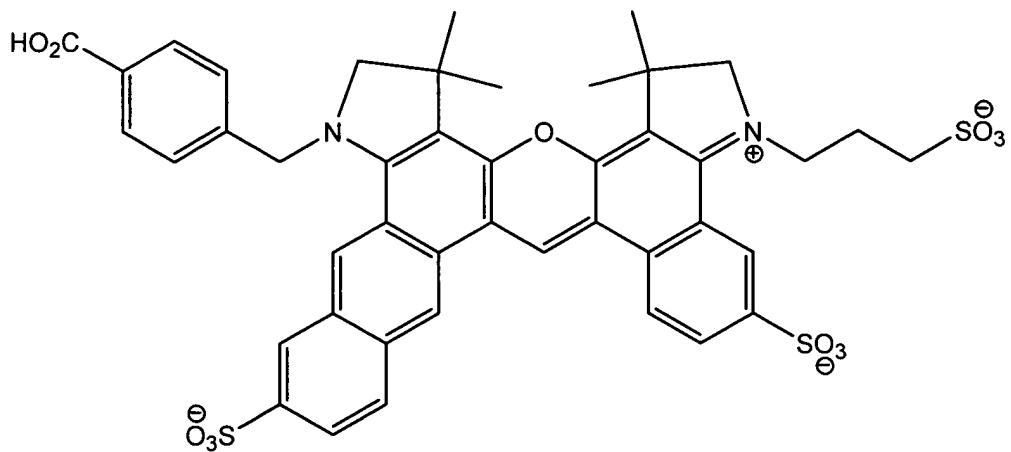
112. (New) The dye of claim 93 wherein, when taken together, R<sup>3</sup> and R<sup>4</sup> form a fused aromatic ring.

113. (New) The dye of claim 112 wherein the fused aromatic ring comprises at least one substituent selected from fluorine, chlorine, C<sub>1</sub>-C<sub>8</sub> alkyl, carboxylate, sulfate, sulfonate, alkylsulfonate, aminomethyl (-CH<sub>2</sub>NH<sub>2</sub>), aminoalkyl, 4-dialkylaminopyridinium, hydroxymethyl (-CH<sub>2</sub>OH), methoxy (-OCH<sub>3</sub>), hydroxyalkyl (-ROH), thiomethyl (-CH<sub>2</sub>SH), thioalkyl (-RSH), alkylsulfone (-SO<sub>2</sub>R), arylthio (-SAr), arylsulfone (-SO<sub>2</sub>Ar), sulfonamide (-SO<sub>2</sub>NR<sub>2</sub>), alkylsulfoxide (-SOR), arylsulfoxide (-SOAr), amino (-NH<sub>2</sub>), ammonium (-NH<sub>3</sub><sup>+</sup>), amido (-CONR<sub>2</sub>), nitrile (-CN), C<sub>1</sub>-C<sub>8</sub> alkoxy (-OR), phenoxy, phenolic, tolyl, phenyl, aryl, benzyl, heterocycle, phosphonate, phosphate, quaternary amine, sulfate, polyethyleneoxy, water-solubilizing group and linking moiety.

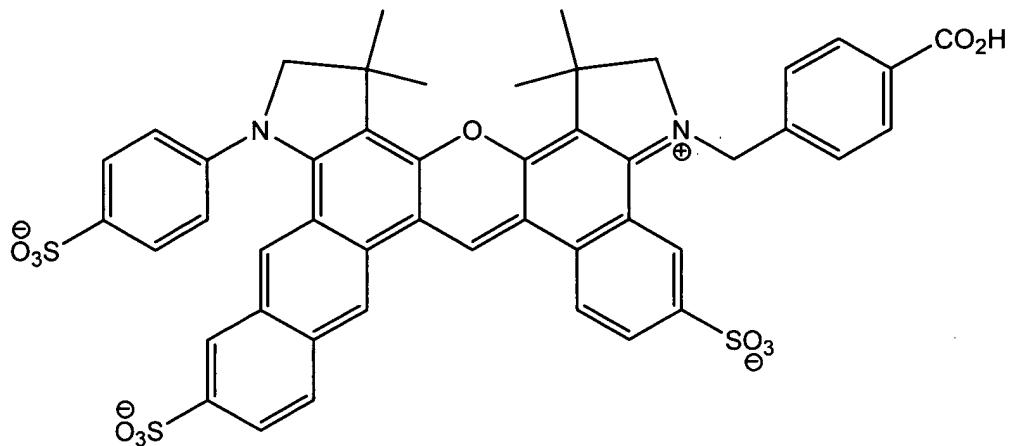
114. (New) The dye of claim 93 comprising the structure:



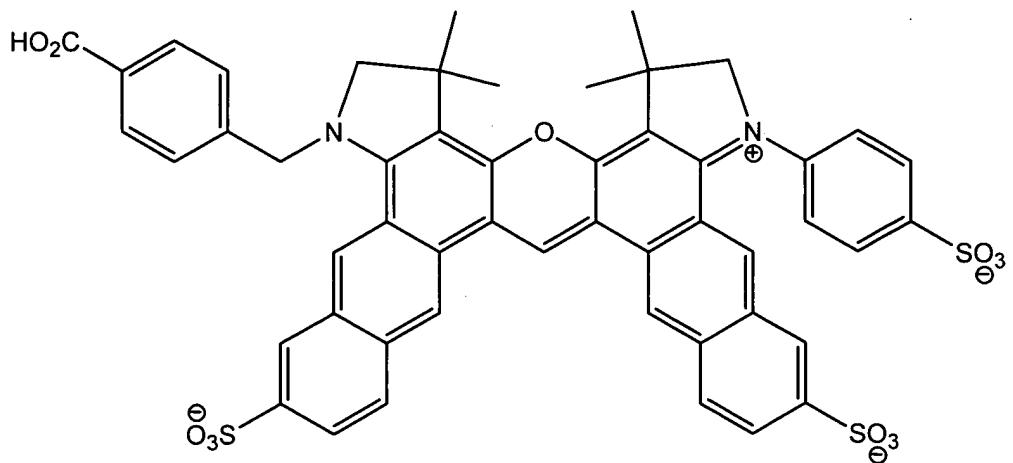
115. (New) The dye of claim 93 comprising the structure:



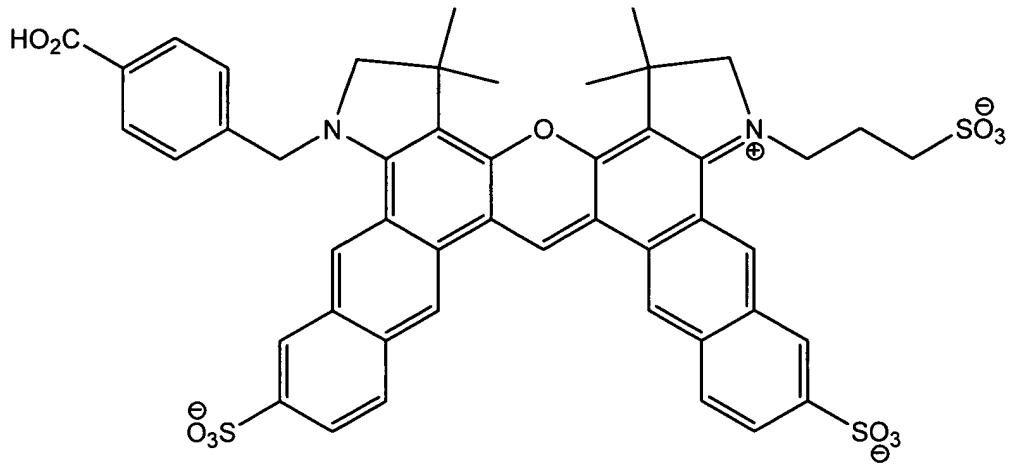
116. (New) The dye of claim 93 comprising the structure:



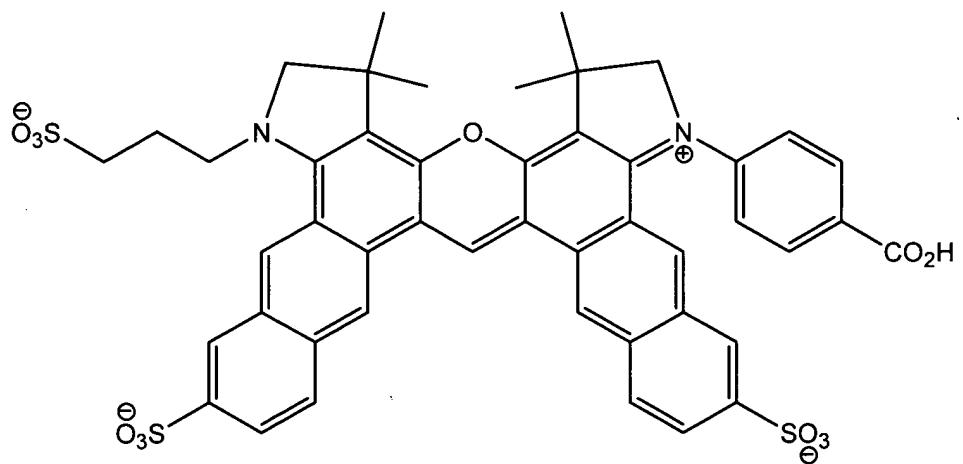
117. (New) The dye of claim 93 comprising the structure:



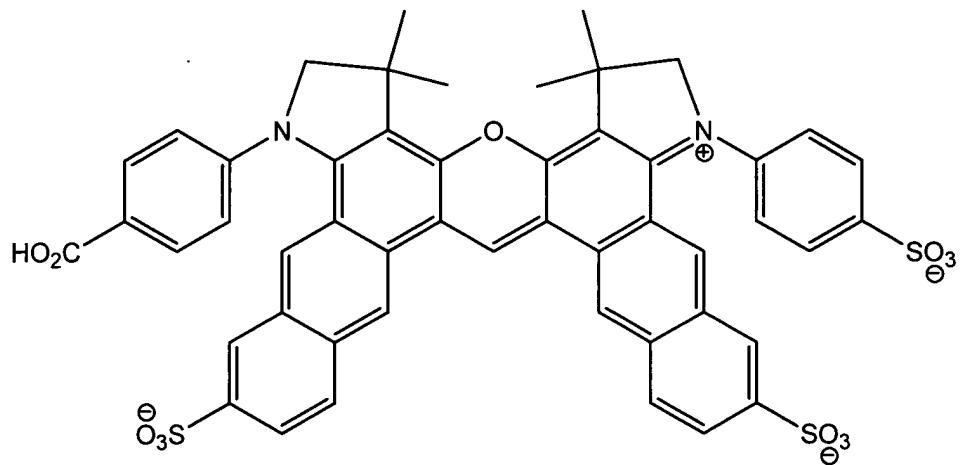
118. (New) The dye of claim 93 comprising the structure:



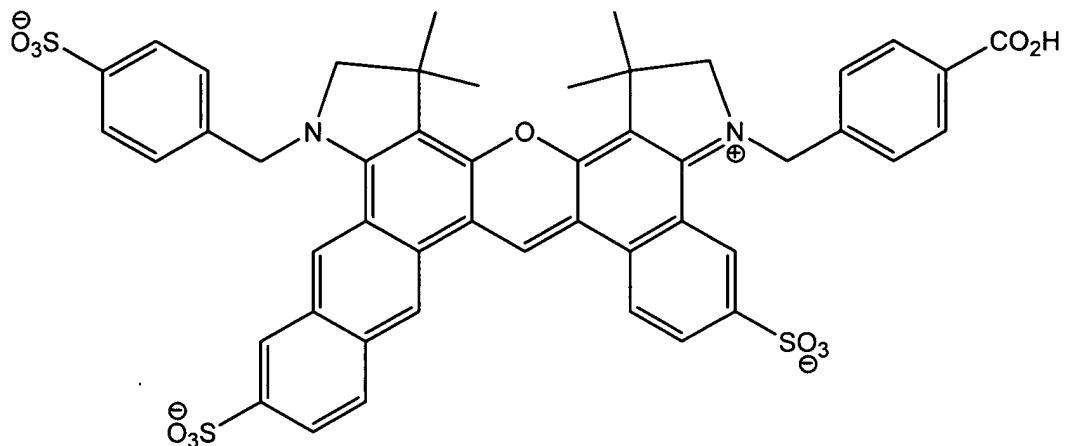
119. (New) The dye of claim 93 comprising the structure:



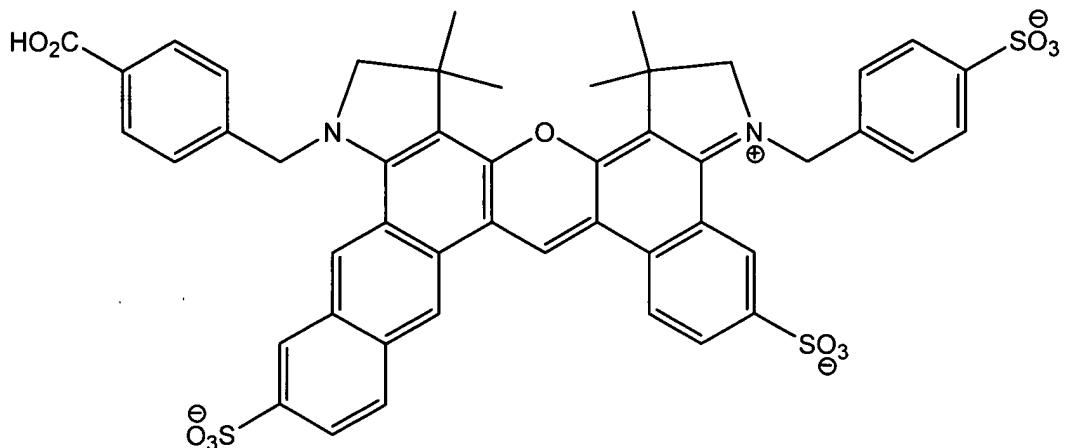
120. (New) The dye of claim 93 comprising the structure:



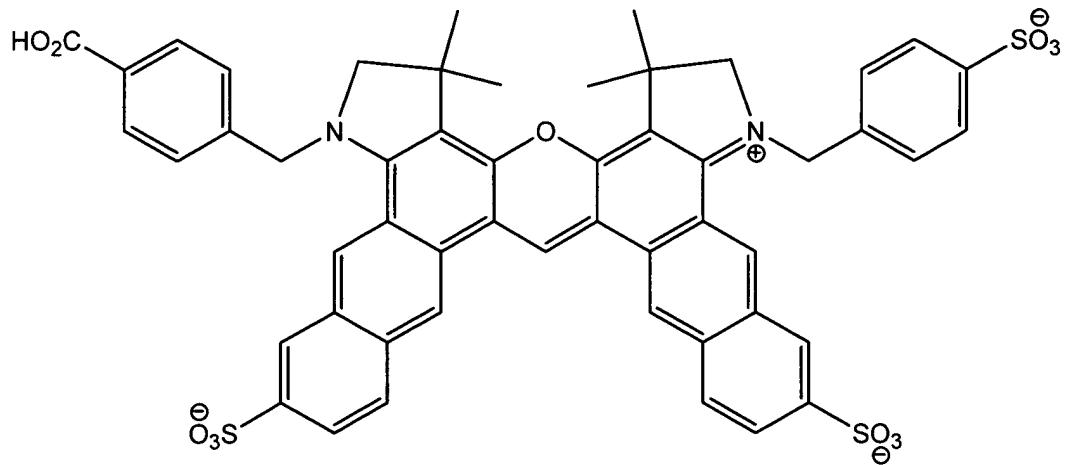
121. (New) The dye of claim 93 comprising the structure:



122. (New) The dye of claim 93 comprising the structure:



123. (New) The dye of claim 93 comprising the structure:



124. (New) The dye of claim 93 comprising the structure:

